

# **20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**

*Lab Report Submitted By*

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**APJ ABDUL KALAM TECHNOLOGICAL  
UNIVERSITY**



**AMAL JYOTHI COLLEGE OF ENGINEERING  
KANJIRAPPALLY**

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**DEPARTMENT OF COMPUTER APPLICATIONS  
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**CERTIFICATE**

This is to certify that the lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **K M ABHIJITH** (Reg.No:AJC20MCA-2051) in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

Ms. Ankitha Philip  
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**Program No: 01**

**Aim : Design a Login Form with username and password using LinearLayout and toast valid credentials.**

**Activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">

    </LinearLayout>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">

    </LinearLayout>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">

    </LinearLayout>

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="43dp"
        android:layout_height="63dp"
        android:layout_weight="1"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="" />

    <EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="119dp"
        android:layout_height="149dp"
        android:layout_weight="1"
```

```

        android:ems="10"
        android:inputType="textPersonName"
        android:text="" />

```

```

<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Submit" />

```

```

<TextView
    android:id="@+id/t1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="Password" />

```

```

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"

```

```

        android:text="Name:" />

```

```

</LinearLayout>

```

### Mainactivity.java

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText et,pe;
    Button b1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```

```

et=findViewById(R.id.editTextTextPersonName);
pe=findViewById(R.id.editTextTextPersonName2);

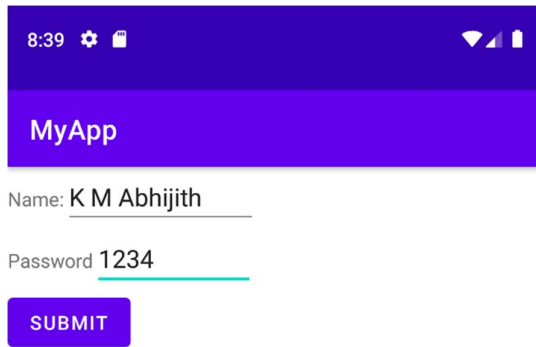
b1=findViewById(R.id.b1);

b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        if(et.getText().length()>0 && pe.getText().length()>0) {
            String toastmsg = "User name: " + et.getText().toString() + "Password: " +
pe.getText().toString();
            Toast.makeText(getApplicationContext(), toastmsg,
Toast.LENGTH_SHORT).show();
        }
        else{
            String toastmsg ="user name and password id needed";

Toast.makeText(getApplicationContext(),toastmsg,Toast.LENGTH_SHORT).show();

        }
    }
});
}
}

```

**OUTPUT:**

8:39 ⚙️ 📄 📶 🔋

**MyApp**

Name:

Password

**SUBMIT**

User name: K M AbhijithPassword: 1234





**Program No: 02****Aim: Write a program that demonstrates Activity Lifecycle****Activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"

    xmlns:tools="http://schemas.android.com/tools"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:padding="10dp"

    tools:context=".MainActivity">

    <TextView

        android:id="@+id/txt"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="20dp"

        android:textSize="34dp" />

</RelativeLayout>

```

**JAVA Code**

```

package com.example.activitylifecycle;

import android.app.Activity;

import android.os.Bundle;

import android.util.Log;

```

```
public class MainActivity extends Activity { @Override protected void
onCreate(Bundle savedInstanceState)

{

super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);

Log.d("lifecycle","onCreate invoked"); } @Override

protected void onStart() { super.onStart();

Log.d("lifecycle","onStart invoked"); } @Override

protected void onResume() { super.onResume(); Log.d("lifecycle","onResume
invoked"); } @Override

protected void onPause() { super.onPause();

Log.d("lifecycle","onPause invoked"); } @Override

protected void onStop() { super.onStop();

Log.d("lifecycle","onStop invoked"); } @Override

protected void onRestart() { super.onRestart(); Log.d("lifecycle","onRestart invoked");
} @Override

protected void onDestroy() { super.onDestroy(); Log.d("lifecycle","onDestroy
invoked"); } }
```

## OUTPUT:

```

2022-02-24 10:40:25.818 8920-8943/com.example.lifecycle U/LibGLESv1: loaded /vendor/lib/egl/libGLESv1_CM_emulation.so
2022-02-24 10:40:25.854 8920-8943/com.example.lifecycle D/LibGLESv1: loaded /vendor/lib/egl/libGLESv1_CM_emulation.so
2022-02-24 10:40:25.884 8920-8943/com.example.lifecycle D/LibGLESv1: loaded /vendor/lib/egl/libGLESv1_CM_emulation.so
2022-02-24 10:40:25.968 8920-8920/com.example.lifecycle D/Lifecycle: onCreate invoked
2022-02-24 10:40:25.977 8920-8920/com.example.lifecycle D/Lifecycle: onStart invoked
2022-02-24 10:40:25.985 8920-8920/com.example.lifecycle D/Lifecycle: onResume invoked
2022-02-24 10:40:26.078 8920-8941/com.example.lifecycle D/HostConnection: HostConnection::get() New Host Connection established 0xe87df9a0, tid 8941
2022-02-24 10:40:26.084 8920-8941/com.example.lifecycle D/HostConnection: HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID
2022-02-24 10:40:26.094 8920-8941/com.example.lifecycle N/OpenGLRenderer: Failed to choose config with EGL_SWAP_BEHAVIOR_PRESERVED, retrying without...
2022-02-24 10:40:26.295 8920-8941/com.example.lifecycle D/EGL_emulation: eglCreateContext: 0xe87dff10: maj 2 min 0 rcv 2
2022-02-24 10:40:26.304 8920-8941/com.example.lifecycle D/EGL_emulation: eglMakeCurrent: 0xe87dff10: ver 2 0 (tinfo 0xe8b18f30) (first time)
2022-02-24 10:40:26.317 8920-8941/com.example.lifecycle I/Gralloc4: mapper 4.x is not supported
2022-02-24 10:40:26.318 8920-8941/com.example.lifecycle D/HostConnection: createUnique: call
2022-02-24 10:40:26.320 8920-8941/com.example.lifecycle D/HostConnection: HostConnection::get() New Host Connection established 0xe87df930, tid 8941
2022-02-24 10:40:26.331 8920-8941/com.example.lifecycle D/goldfish-address-space: allocate: Ask for block of size 8x100
2022-02-24 10:40:26.332 8920-8941/com.example.lifecycle D/goldfish-address-space: allocate: ioctl allocate returned offset 0x3f3ffe000 size 0x2000
2022-02-24 10:40:26.343 8920-8941/com.example.lifecycle D/HostConnection: HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID
2022-02-24 10:40:26.651 8920-8932/com.example.lifecycle I/ample.lifecycle: Background young concurrent copying GC freed 19135(1233K) AllocSpace objects, 0(0B)
2022-02-24 10:40:26.652 8920-8934/com.example.lifecycle N/System: A resource failed to call close.
2022-02-24 10:40:58.113 8920-8920/com.example.lifecycle D/Lifecycle: onPause invoked
2022-02-24 10:40:59.121 8920-8920/com.example.lifecycle D/Lifecycle: onStop invoked
2022-02-24 10:40:59.132 8920-8920/com.example.lifecycle D/Lifecycle: onDestroy invoked
2022-02-24 10:47:03.281 8920-8934/com.example.lifecycle N/Sys failed to call release.

```

**Program No:03****Aim : Implementing basic arithmetic operations of a simple calculator****Activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/btnmult" android:layout_width="match_parent"
    android:layout_height="match_parent" tools:context=".MainActivity"
    tools:ignore="MissingClass">

    <EditText
        android:id="@+id/etnum1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10" android:inputType="number"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.153" />

    <EditText
        android:id="@+id/etnum2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10" android:inputType="number"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.317" />

    <Button
        android:id="@+id/btnadd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:text="Add"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.309"
        app:layout_constraintStart_toStartOf="parent"

```

```

app:layout_constraintTop_toBottomOf="@+id/etnum2"
app:layout_constraintVertical_bias="0.135" />

```

```

<TextView

```

```

    android:id="@+id/tvanswer"
    android:layout_width="102dp"
    android:layout_height="50dp"
    android:text="Answer"
    android:textSize="32sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.475"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.607" />

```

```

<Button

```

```

    android:id="@+id/btnsub"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="Sub"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.015"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.468" />

```

```

<Button

```

```

    android:id="@+id/btnmul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="Mult"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.621"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.468" />

```

```

<Button

```

```

    android:id="@+id/btndiv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Div"

```

```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.949"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.468" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

### Activity\_main.java

```

package com.example.application;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View; import
android.widget.Button; import
android.widget.EditText; import
android.widget.TextView;

public class MainActivity extends AppCompatActivity { private

    EditText num1;
    private EditText num2;
    private Button add; private
    Button sub; private Button
    mult; private Button div;
    private TextView result;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        num1=(EditText) findViewById(R.id.etnum1);
        num2=(EditText) findViewById(R.id.etnum2);
        add=(Button) findViewById(R.id.btnadd); sub=(Button)
        findViewById(R.id.btsub);

        mult=(Button) findViewById(R.id.btnmul); div=(Button)
        findViewById(R.id.btndiv); result=(TextView)
        findViewById(R.id.tvanswer)

        add.setOnClickListener(new      View.OnClickListener()      {
            @Override

```

```

        public void onClick(View v) {

            int    number1=Integer.parseInt(num1.getText().toString());    int
            number2=Integer.parseInt(num2.getText().toString());    int    sum    =
            number1 + number2;

            result.setText(String.valueOf(sum));

        }

    });
    sub.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            int    number1=Integer.parseInt(num1.getText().toString());    int
            number2=Integer.parseInt(num2.getText().toString());    int    sum    =
            number1 - number2;

            result.setText(String.valueOf(sum));

        }

    });
    mult.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            int    number1=Integer.parseInt(num1.getText().toString());    int
            number2=Integer.parseInt(num2.getText().toString());    int    sum    =
            number1 * number2;

            result.setText(String.valueOf(sum));

        }

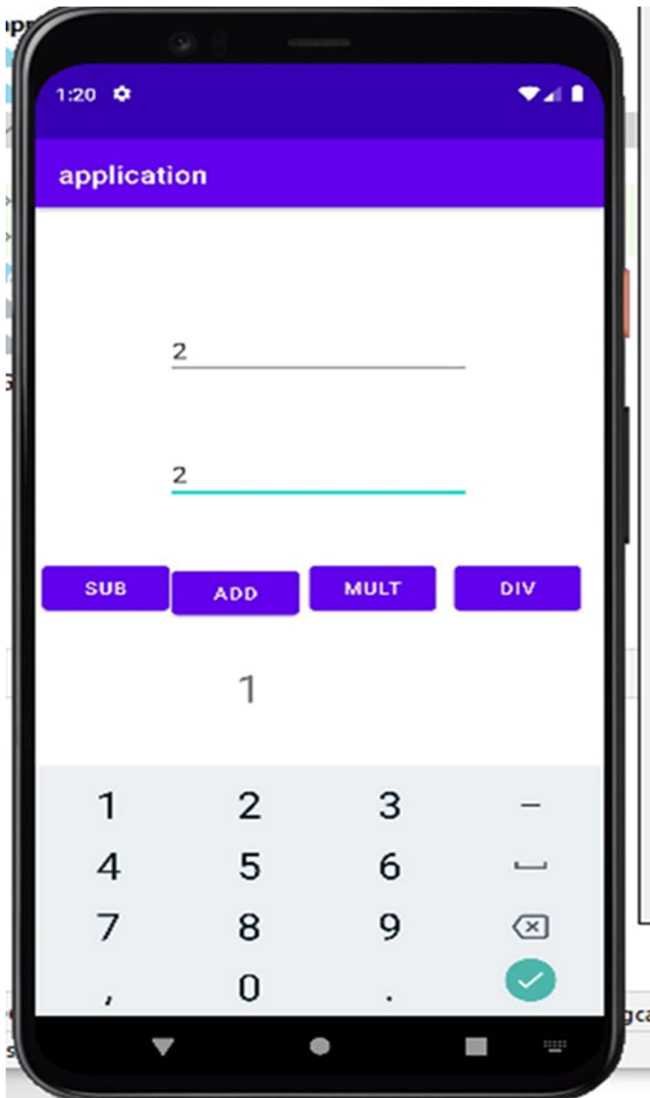
    });
    div.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            int    number1=Integer.parseInt(num1.getText().toString());    int
            number2=Integer.parseInt(num2.getText().toString());    int    sum    =
            number1 / number2;

            result.setText(String.valueOf(sum));

        }

    });
}

```

**OUTPUT:**



**Program No: 04****Aim : Implement validations on various UI controls****XML Code**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity"
    tools:ignore="HardcodedText">

    <EditText
        android:id="@+id/firstName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:hint="First Name"
        android:inputType="text" />

    <EditText
        android:id="@+id/lastName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:hint="Last Name"
        android:inputType="text" />
```

```
<EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Email"
    android:inputType="textEmailAddress" />
```

```
<EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Password"
    android:inputType="textPassword" />
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"
    android:gravity="end"
    android:orientation="horizontal">
```

```
<Button
    android:id="@+id/cancelButton"
    style="@style/Widget.AppCompat.Button.Borderless"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```

        android:layout_marginEnd="4dp"
        android:text="CANCEL"
        android:textColor="@color/white" />

<Button
    android:id="@+id/proceedButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="16dp"
    android:backgroundTint="@color/black"
    android:text="PROCEED"
    android:textColor="@android:color/white"
    tools:ignore="ButtonStyle" />

</LinearLayout>
</LinearLayout>

```

## JAVA Code

```

package com.example.validation;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    // two buttons
    Button bCancel, bProceed;

    // four text fields
    EditText etFirstName, etLastName, etEmail, etPassword;

```

```

// one boolean variable to check whether all the text fields
// are filled by the user, properly or not.
boolean isAllFieldsChecked = false;

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    // register buttons with their proper IDs.
    bProceed = findViewById(R.id.proceedButton);
    bCancel = findViewById(R.id.cancelButton);

    // register all the EditText fields with their IDs.
    etFirstName = findViewById(R.id.firstName);
    etLastName = findViewById(R.id.lastName);
    etEmail = findViewById(R.id.email);
    etPassword = findViewById(R.id.password);

    // handle the PROCEED button
    bProceed.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            // store the returned value of the dedicated function which checks
            // whether the entered data is valid or if any fields are left blank.
            isAllFieldsChecked = CheckAllFields();

            // the boolean variable turns to be true then
            // only the user must be proceed to the activity2
            if (isAllFieldsChecked) {
                Intent i = new Intent(MainActivity.this, MainActivity2.class);

```

```

        startActivity(i);
    }
}
});

bCancel.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        MainActivity.this.finish();
        System.exit(0);
    }
});
}

private boolean CheckAllFields() {
    if (etFirstName.length() == 0) {
        etFirstName.setError("This field is required");
        return false;
    }

    if (etLastName.length() == 0) {
        etLastName.setError("This field is required");
        return false;
    }

    if (etEmail.length() == 0) {
        etEmail.setError("Email is required");
        return false;
    }

    if (etPassword.length() == 0) {
        etPassword.setError("Password is required");
        return false;
    }
}

```

```
    } else if (etPassword.length() < 8) {  
        etPassword.setError("Password must be minimum 8 characters");  
        return false;  
    }  
  
    // after all validation return true.  
    return true;  
}  
}
```

**OUTPUT:**

10:58

validation

First Name

Last Name

Email

Password

PROCEED

This field is required

q w e r t y u i o p

a s d f g h j k l

z x c v b n m

?123 , . >

**Program No:05**

**Aim: Design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences**

**MainActivity.java**

```

package com.example.sharedpref;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar a = getSupportActionBar();
        a.setTitle("Welcome");
        Button sub = findViewById(R.id.sav);
        EditText nam = findViewById(R.id.name);
        EditText email = findViewById(R.id.em);
        EditText phone = findViewById(R.id.ph);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent(MainActivity.this, add.class);

                String user = nam.getText().toString();
                i.putExtra("Name", user);
            }
        });
    }
}

```



```

        String E_mail = email.getText().toString();
        i.putExtra("Email", E_mail);
        String Phones = phone.getText().toString();
        i.putExtra("Phone", Phones);
        startActivity(i);

        SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",
MODE_PRIVATE);

        SharedPreferences.Editor myEdit = sharedPreferences.edit();
        myEdit.putString("name", nam.getText().toString());
        myEdit.putString("email", email.getText().toString());
        myEdit.putString("phone", phone.getText().toString());
        myEdit.apply();
    }
});
}
}

```

**add.java**

```

package com.example.sharedpref;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.TextView;

public class add extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add);
        ActionBar a = getSupportActionBar();
        a.setTitle("Display");
    }
}

```

```

TextView diss = findViewById(R.id.diss);
TextView diss1 = findViewById(R.id.diss1);

Intent i = getIntent();
String name = i.getStringExtra("Name");
String email = i.getStringExtra("Email");
String phone = i.getStringExtra("Phone");

diss.setText("Name : " + name + "\nEmail : " + email + "\nPhone : " + phone);

SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",
MODE_PRIVATE);

String Name = sharedPreferences.getString("name", "");
String Email = sharedPreferences.getString("email", "");
String Phone = sharedPreferences.getString("phone", "");
diss1.setText("Name : " + Name + "\nEmail : " + Email + "\nPhone : " + Phone);
}
}

```

#### **activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView3"
        android:layout_width="60dp"
        android:layout_height="17dp"

```

```

        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.091"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.222" />
    <EditText
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.756"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.215" />
    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Email ID"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.096"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.325" />
    <EditText
        android:id="@+id/em"

```

```

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.761"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.319" />
<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Phone No."
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.09"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.435" />
<EditText
    android:id="@+id/ph"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"android:ems="10"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.761"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.431" />
<Button

```

```

        android:id="@+id/sav"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SAVE"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.413"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.562" />
<TextView
    android:id="@+id/textView6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Enter Your Details"
    android:textSize="25sp"

    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.464"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.133" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

### activity\_add.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"

```

```

tools:context=".add">
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Your Details Using Intent"
    android:textStyle="bold"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.146" />
<TextView
    android:id="@+id/dis"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textStyle="italic"
    android:textSize="15sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.233" />
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Your Details Using Shared Preference"
    android:textSize="20sp"
    android:textStyle="bold"

```

```

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.771"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.467" />
    <TextView
        android:id="@+id/dis1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="15sp"
        android:textStyle="italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.527"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.571" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

**OUTPUT:****Enter Your Details**

Name K M Abhijith

Email ID kmabhijith1999@gmail.co

Phone No. 9993338967

SAVE

**Your Details Using Intent**

Name : K M Abhijith  
Email : kmabhijith1999@gmail.com  
Phone : 9993338967

**Your Details Using Shared Preference**

Name : K M Abhijith  
Email : kmabhijith1999@gmail.com  
Phone : 9993338967





**Program No: 06****Aim : Design a simple Calculator using GridLayout and Cascaded LinearLayout****Activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#323030"
        android:layout_gravity="bottom"
        android:gravity="bottom"
        android:orientation="vertical"
        tools:context=".MainActivity">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_gravity="end"

```

```
android:orientation="vertical">
```

```
<TextView
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginEnd="20dp"  
    android:text="5+5"  
    android:textAlignment="textEnd"  
    android:textColor="@color/white"  
    android:textSize="40dp" />
```

```
<TextView
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginEnd="20dp"  
    android:text="=10"  
    android:textAlignment="textEnd"  
    android:textColor="@color/white"  
    android:textSize="40dp" />
```

```
</LinearLayout>
```

```
<GridLayout
```

```
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:layout_weight="1"  
    android:columnCount="4"  
    android:gravity="bottom"  
    android:rowCount="4">
```

```
<Button
```

```
    android:id="@+id/b9"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"
```

```

        android:layout_margin="10dp"
        android:text="9"
        android:textColor="@color/white"
        android:textSize="25dp" />
<Button
    android:id="@+id/b8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="8"
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/b7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="7"
    android:textColor="@color/white"
    android:textSize="25dp" />

<Button
    android:id="@+id/bmult"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="x"
    android:textColor="@color/white"
    android:textSize="18dp" />
<Button
    android:id="@+id/b6"
    android:layout_width="wrap_content"

```

```

        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="6"
        android:textColor="@color/white"
        android:textSize="25dp" />

```

```

<Button
    android:id="@+id/b5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="5"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button
    android:id="@+id/b4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="4"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button
    android:id="@+id/bdiv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="/"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button
    android:id="@+id/b3"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="3"
        android:textColor="@color/white"
        android:textSize="25dp" />
<Button
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="2"
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="1"
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/bminus"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="-"
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/b0"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="0"
        android:textColor="@color/white"
        android:textSize="25dp" />
<Button
    android:id="@+id/b."
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="."
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/bequal"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="="
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/bplus"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="+"
    android:textColor="@color/white"
    android:textSize="25dp" />

</GridLayout>

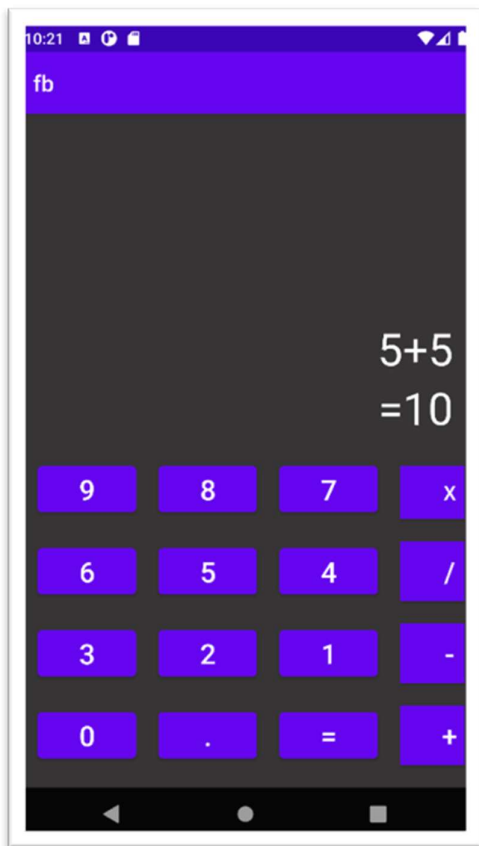
```

```
        </LinearLayout>
    </LinearLayout>

</androidx.constraintlayout.widget.ConstraintLayout>
```

### JAVA Code

```
package com.example.fb;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

**OUTPUT:**



**Program No: 07****Aim : Create a Facebook page using Relative Layout; set properties using .xml file****Activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="250px"
        android:layout_marginLeft="330px"
        android:textSize="100px"
        android:textColor="@color/blue"
        android:text="facebook"
    />

    <TextView
        android:id="@+id/fbtag"
        android:layout_width="245dp"
        android:layout_height="48dp"
        android:layout_marginLeft="260px"
        android:layout_marginTop="450px"
        android:text="@string/fb_tag"
    />

```

```
<androidx.cardview.widget.CardView
```

```
    android:layout_width="297dp"
    android:layout_height="347dp"
    app:cardCornerRadius="25px"
    android:layout_marginTop="600px"
    android:layout_marginLeft="110px"
    >
```

```
<EditText
```

```
    android:id="@+id/editTextTextPersonName"
    android:layout_width="220dp"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100px"
    android:layout_marginTop="150px"
    android:background="@drawable/border"
    android:textColor="@color/black"
    android:ems="10"
    android:inputType="textPersonName"
    android:selectAllOnFocus="true"
    android:text="Name" />
```

```
<EditText
```

```
    android:id="@+id/editTextTextPassword"
    android:layout_width="220dp"
    android:layout_height="wrap_content"
    android:background="@drawable/border"
    android:layout_marginLeft="100px"
    android:layout_marginTop="300px"
    android:textColor="@color/black"
    android:ems="10"
    android:inputType="textPassword" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="224dp"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100px"
    android:layout_marginTop="450px"
    android:text="Sign in"
    android:backgroundTint="@color/blue"
/>
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="220px"
    android:layout_marginTop="600px"
    android:autoLink="web"
    android:linksClickable="true"
    android:text="forgot password ?"
    android:textColor="@color/blue"/>
```

```
<View
    android:layout_width="261dp"
    android:layout_height="1dp"
    android:layout_marginLeft="50px"
    android:layout_marginTop="700px"
    android:background="@color/grey" />
```

```
<Button
    android:id="@+id/button2"
    android:layout_width="224dp"
```

```

        android:layout_height="wrap_content"
        android:layout_marginLeft="100px"
        android:layout_marginTop="720px"
        android:text="Sign up"
        android:backgroundTint="@color/green"
    />

</androidx.cardview.widget.CardView>
</RelativeLayout>

```

### **MainActivity.java**

```

package com.example.fb;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    Button b1,b2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.editTextTextPersonName);
        e2=findViewById(R.id.editTextTextPassword);
        b1=findViewById(R.id.button);
    }
}

```

```

        b2=findViewById(R.id.button2);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent(MainActivity.this,MainActivity2.class);
            }
        });
    }
}

```

### **border.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android"
    android:shape="rectangle" >

    <solid android:color="@android:color/white" />
    <stroke android:width="1dip" android:color="@color/grey"/>
    <padding android:bottom="10dp" android:left="10dp" android:right="10dp"
android:top="10dp"/>
    <corners
        android:radius="2dp" >
    </corners>
</shape>

```

### **String.xml**

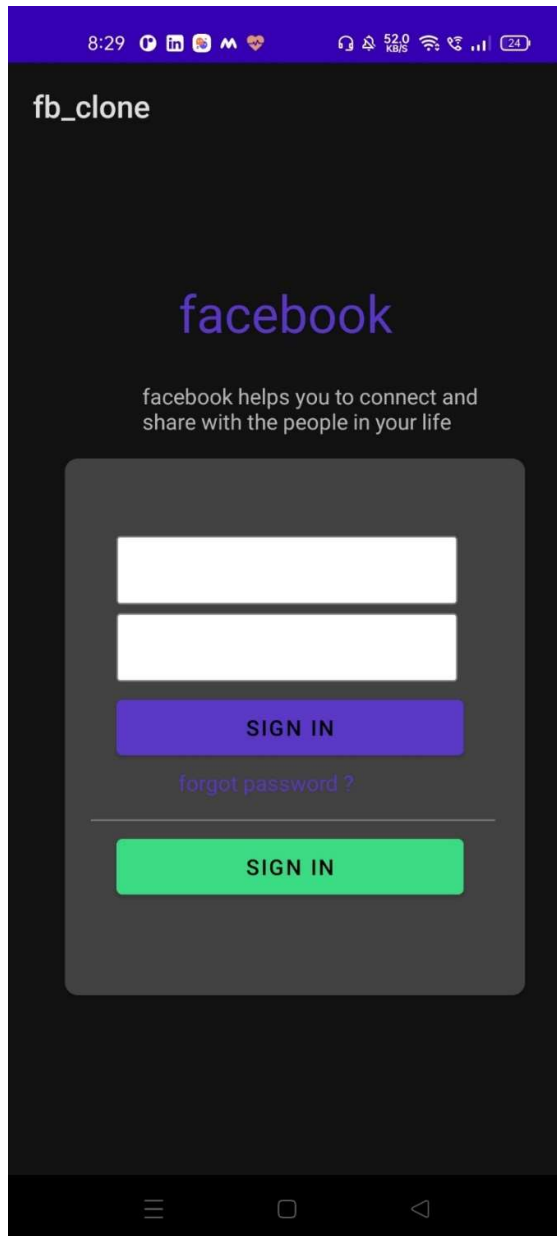
```

<resources>

    <string name="app_name">fb_clone</string>

    <string name="fb_tag">facebook helps you to connect and
        share with the people in your life</string></resources>

```

**OUTPUT :**

**Program No : 08****Aim: Develop an application that toggles image using FrameLayout****ActivityMain.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.473"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.273" />
    <FrameLayout
        android:layout_width="263dp"
        android:layout_height="285dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.499">
        <ImageView
            android:id="@+id/im1"
            android:layout_width="316dp"
            android:layout_height="277dp"
            android:src="@drawable/img" />
        <ImageView
            android:id="@+id/im2"
            android:layout_width="220dp"
            android:layout_height="wrap_content"
            android:src="@drawable/img_1" />
    </FrameLayout>
</FrameLayout>

```

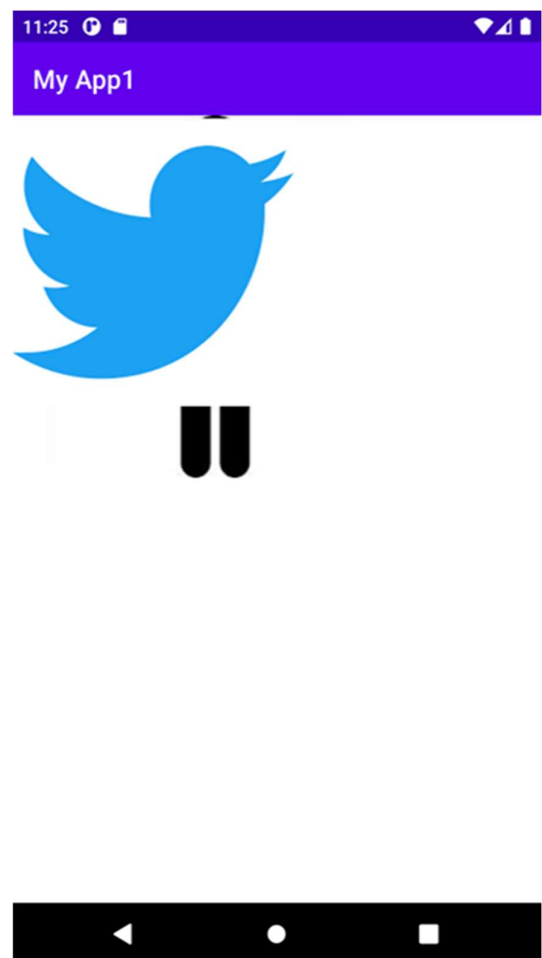
**mainactivity.java**

```

package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
public class MainActivity extends AppCompatActivity {
    ImageView im1,im2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        im1 = findViewById(R.id.im1);
        im2 = findViewById(R.id.im2);
        im2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                im1.bringToFront();
            }
        });
        im1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                im2.bringToFront();
            }
        });
    }
}

```



**OUTPUT:**

**Program N0 : 09****Aim: Implement Adapters and perform exception handling****XML Code**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TextView"
        tools:layout_editor_absoluteX="181dp"
        tools:layout_editor_absoluteY="363dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

**JAVA Code**

```

package com.example.exception;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    TextView textView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```

```
try {  
    textView.setText("Welcome");  
}  
catch (Exception e)  
{  
    Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();  
}  
}  
}
```

**OUTPUT:**

**Program No: 10****Aim: Implement Intent to navigate between multiple activities****Activity\_main.java**

```

package com.example.myapplogin15_12;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {
    Button b1;
    TextView v1,v2;
    EditText e1,e2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar act=getSupportActionBar();
        act.setTitle("Login Page");
        b1=findViewById(R.id.b1);
        v1=findViewById(R.id.t1);
        v2=findViewById(R.id.t2);
        e1=findViewById(R.id.ed1);
        e2=findViewById(R.id.ed2);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                String name=e1.getText().toString();
                String pass=e2.getText().toString();
                if (name.equals("Nimisha") && pass.equals("nim123")) {
                    Intent in = new Intent(MainActivity.this, MainActivity2.class);
                    in.putExtra("name", name);
                    startActivity(in);
                }

                else {

```

```

        Toast.makeText(getApplicationContext(), "Error",
        Toast.LENGTH_SHORT).show();

    }

    }
});

}
}

```

### activitymain.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#2F009688"
tools:context=".MainActivity">

    <TextView
        android:id="@+id/text"
        android:layout_width="129dp"
        android:layout_height="35dp"
        android:text="Login page"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.058" />

    <TextView
        android:id="@+id/t1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="User Name"
        android:textSize="16sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.048"
        app:layout_constraintStart_toStartOf="parent"

```

```
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.19" />
```

```
<TextView
    android:id="@+id/t2"
    android:layout_width="82dp"
    android:layout_height="26dp"
    android:background="#FFEB3B"
    android:text="Pass Word"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.048"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.29" />
```

```
<EditText
    android:id="@+id/ed1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Username"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.651"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.177" />
```

```
<EditText
    android:id="@+id/ed2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.651"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.271" />
```

```
<Button
```

```

        android:id="@+id/b1"
        android:layout_width="139dp"
        android:layout_height="51dp"

        android:text="Login"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.481"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.442" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

### Mainactivity2.java

```

package com.example.myapplication15_12;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        ActionBar act=getSupportActionBar();
        act.setTitle("Content Page");
        EditText e1=findViewById(R.id.ed);
        EditText e2=findViewById(R.id.edi);
        Button b1=findViewById(R.id.button);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String add=e1.getText().toString();
                String num=e2.getText().toString();
                Intent in=new Intent(MainActivity2.this,MainActivity3.class);
                in.putExtra("add",add);
                in.putExtra("ph",num);
                startActivity(in);
            }
        });
    }
}

```



```

    }
}

```

### activitymain2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity2">

    <EditText
        android:id="@+id/ed"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.256" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.613" />

    <EditText
        android:id="@+id/edi"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="phone"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"

```

```

        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.386" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

### Mainactivity3.java

```

package com.example.myapplication15_12;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

import org.w3c.dom.Text;

public class MainActivity3 extends AppCompatActivity {
    TextView t1;
    String addr,pnum;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);
        t1=findViewById(R.id.textView);
        Intent in=getIntent();

        addr=in.getStringExtra("add");
        pnum=in.getStringExtra("ph");
        t1.setText("Address:"+addr+"\n phone Num:"+pnum);

    }
}

```

### activitymain3.xml

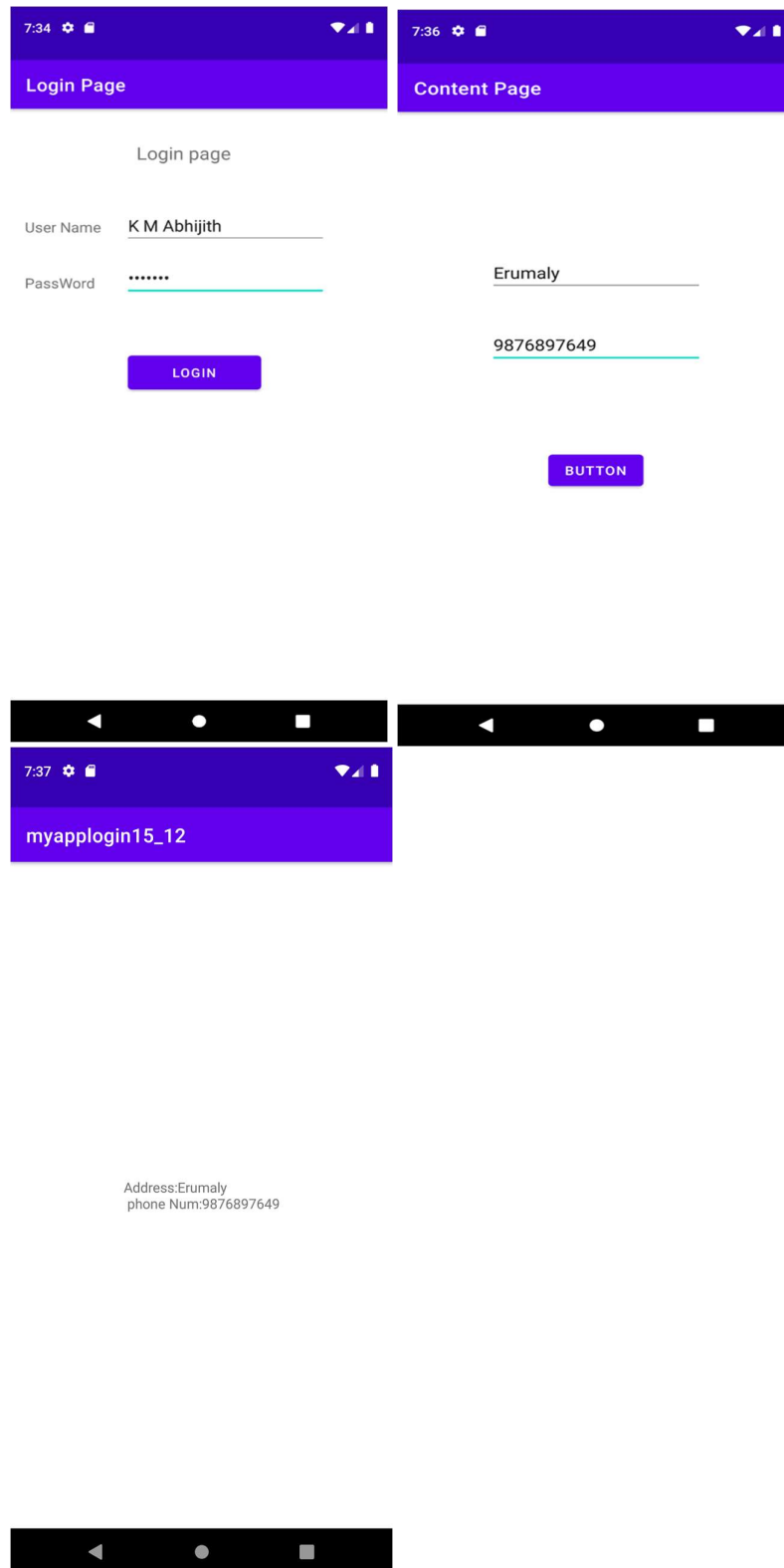
```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity3">

    <TextView
        android:id="@+id/textView"

```

```
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    app:layout_constraintBottom_toBottomOf="parent"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>
```

**OUTPUT:**

**Program No :11****Aim : Develop application that works with explicit intents****XML Code**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Button android:id="@+id/cm"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=" Google"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

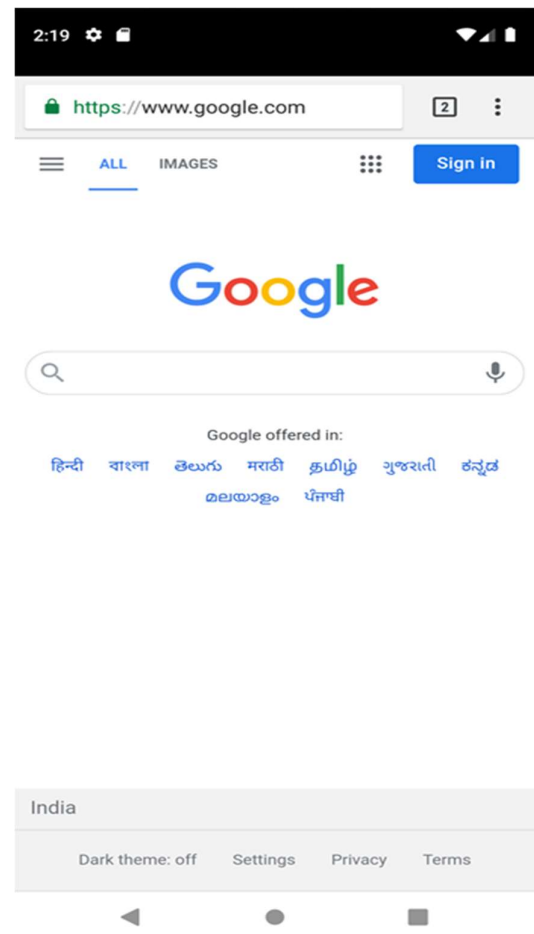
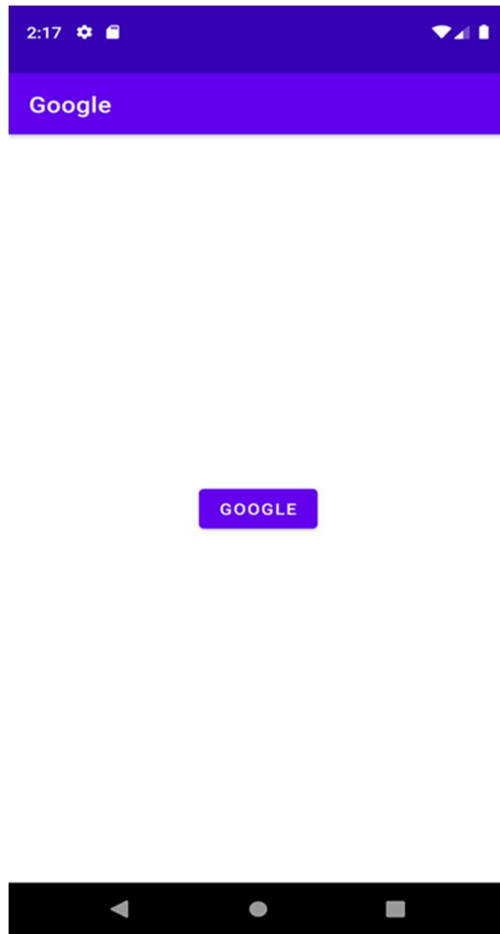
**JAVA Code**

```

package com.example.Google;
import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.net.UriQuerySanitizer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

```

```
public class MainActivity extends AppCompatActivity {  
    @Override protected void onCreate(Bundle savedInstanceState)  
    {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
        Button click = findViewById(R.id.cm);  
        click.setOnClickListener(new View.OnClickListener()  
        {  
            @Override public void onClick(View view) {  
                Intent j = new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com/"));  
                startActivity(j);  
            }  
        });  
    }  
}
```

**OUTPUT:**

**Program No: 12****Aim: Implement Options Menu to navigate to activities****Activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

**Main activity.java**

```

package com.example.myapplication;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

```



```

        setContentView(R.layout.activity_main);
    }
    //option menu
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {
            case R.id.item1:
                Intent pic=new Intent(this,MainActivity2.class);
                startActivity(pic);
                Toast.makeText(getApplicationContext(),"about",Toast.LENGTH_LONG).show();
                return true;
            case R.id.item2:
                Toast.makeText(getApplicationContext(),"help",Toast.LENGTH_LONG).show();
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }
}

```

### menu.xml

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/item1"
        android:title="about"
        android:icon="@drawable/home"
        android:orderInCategory="100"
        app:showAsAction="always"/>

    <item
        android:id="@+id/item2"
        android:title="help"/>
</menu>

```

### Activity\_main2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"

```

```

xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity2">

<ImageView
    android:id="@+id/imageView"
    android:layout_width="171dp"
    android:layout_height="123dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.524"
    app:srcCompat="@drawable/home"
    android:src="@drawable/home"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

### Activity main2.java

```

package com.example.myapplication;

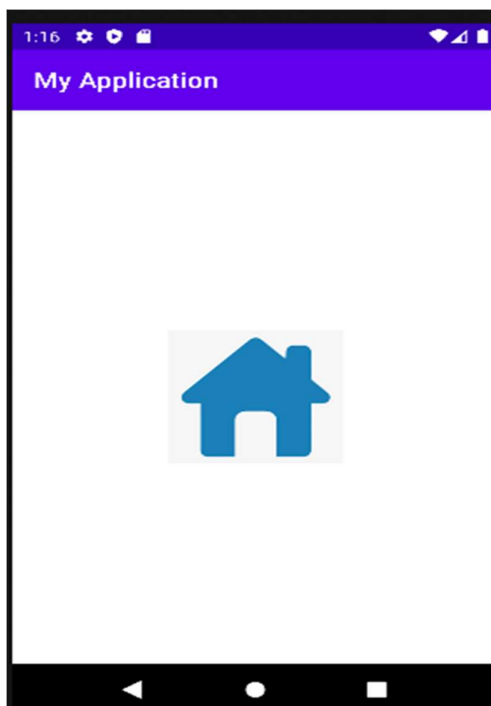
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
    }
}

```

**OUTPUT:**

**Program No:13****Aim: Develop an application that uses ArrayAdapter with ListView****Activity main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ListView
        android:id="@+id/list"
        android:layout_width="291dp"
        android:layout_height="233dp"
        android:layout_marginStart="1dp"
        android:layout_marginTop="1dp"
        android:layout_marginEnd="1dp"
        android:layout_marginBottom="1dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.498" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

**Mainactivity.java**

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;

```

```

import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    ListView listView;
    String animals[]={"cat","dog","lion"};

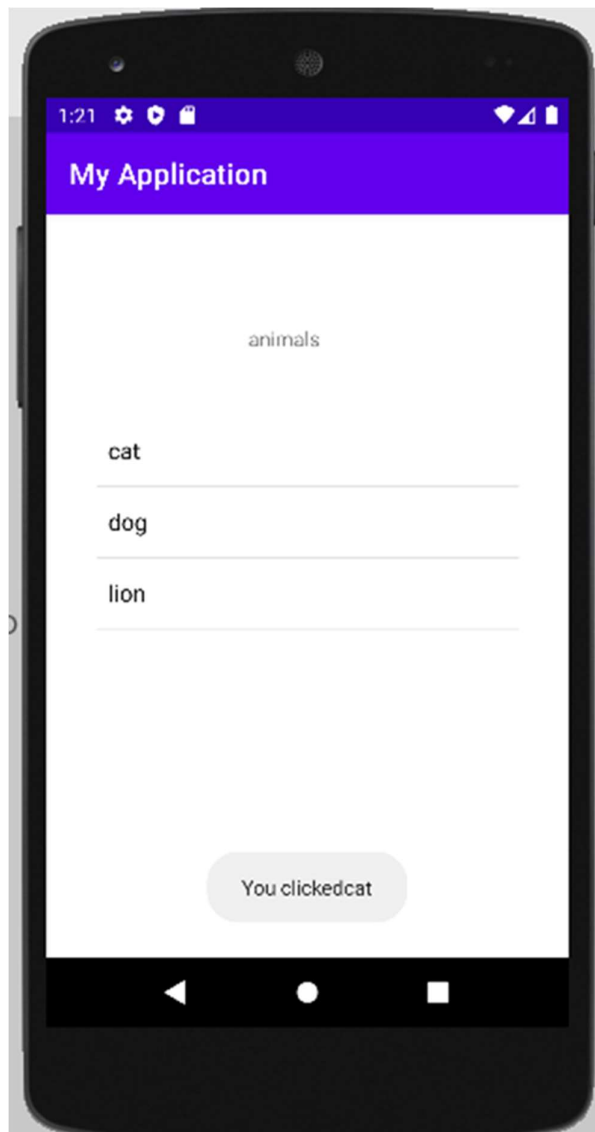
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        listView=findViewById(R.id.list);

        ArrayAdapter arrayAdapter=new
        ArrayAdapter<String>(MainActivity.this,R.layout.support_simple_spinner_dropdown_item,animals);
        listView.setAdapter(arrayAdapter);

        listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                Toast.makeText(getApplicationContext(),"You
clicked"+animals[position],Toast.LENGTH_LONG).show();
            }
        });
    }
}

```

**OUTPUT:**

**Program No :14**

**Aim : Develop an application that use GridView with images and display Alert box on selection**

**XML Code**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    tools:context=".MainActivity"
    android:orientation="horizontal">
    <GridView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:numColumns="auto_fit"
        android:id="@+id/gd"
    />
</LinearLayout>
```

**imageLayout.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <ImageView
        android:id="@+id/myimage"
        android:layout_width="100dp"
```

```

        android:layout_height="100dp"
        android:layout_marginLeft="10dp"
        android:layout_marginTop="10dp" />
    <TextView
        android:id="@+id/mytext"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="5dp"/>
</LinearLayout>

```

### MainActivity.java

```

package com.example.adapter_grid_layout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.GridView;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
{

    int cars[] = {R.drawable.img1,R.drawable.img2,R.drawable.img3,R.drawable.img4};
    GridView SimpleGrid;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
    }
}

```



```

setContentView(R.layout.activity_main);
SimpleGrid = (GridView) findViewById(R.id.gd);

CustomAdapter customAdapter=new CustomAdapter(getApplicationContext(),cars);
SimpleGrid.setAdapter(customAdapter);
SimpleGrid.setOnItemClickListener(new AdapterView.OnItemClickListener()
{
    @Override
    public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)
    {

        Toast.makeText(MainActivity.this,"You Clicked at "
+(i+1),Toast.LENGTH_LONG).show();

    }
});
}
}

```

### CustomAdapter.java

```

package com.example.adapter_grid_layout;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.ImageView;

public class CustomAdapter extends BaseAdapter
{
    Context context;
    int cars[];

```

```

    LayoutInflater inflater;
//contrsuctor class
    public CustomAdapter(Context applicationContext, int[] cars)
    {
        this.context=applicationContext;
        this.cars=cars;
        inflater = (LayoutInflater.from(applicationContext));
    }

    @Override
    public int getCount() {
        return cars.length;
    }

    @Override
    public Object getItem(int i) {
        return null;
    }

    @Override
    public long getItemId(int i) {
        return 0;
    }

    @Override
    public View getView(int i, View view, ViewGroup viewGroup) {
        view = inflater.inflate(R.layout.imagelayout,null);
        ImageView icon=(ImageView) view.findViewById(R.id.myimage);
        icon.setImageResource(cars[i]);
        return view;
    }
}

```

**OUTPUT:**

**Program No.15**

**Aim :Develop an application that implements Spinner component and perform event handling**

**XML Code**

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Spinner
        android:id="@+id/spinner"
        android:layout_width="200dp"
        android:layout_height="40dp"
        android:layout_marginBottom="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginRight="8dp"
        android:layout_marginTop="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

**JAVA Code**

```
package com.example.spinner;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
```

```

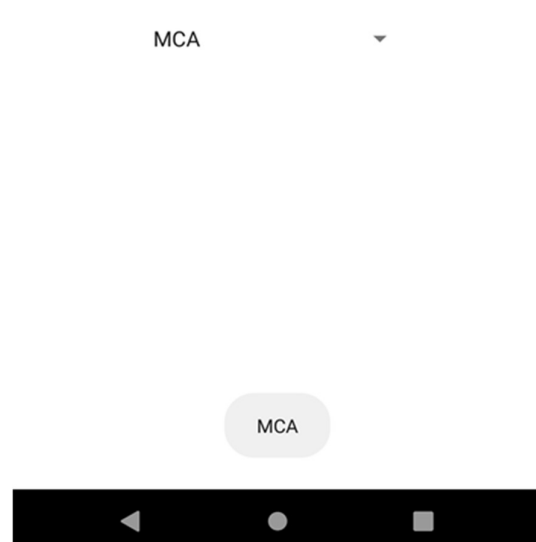
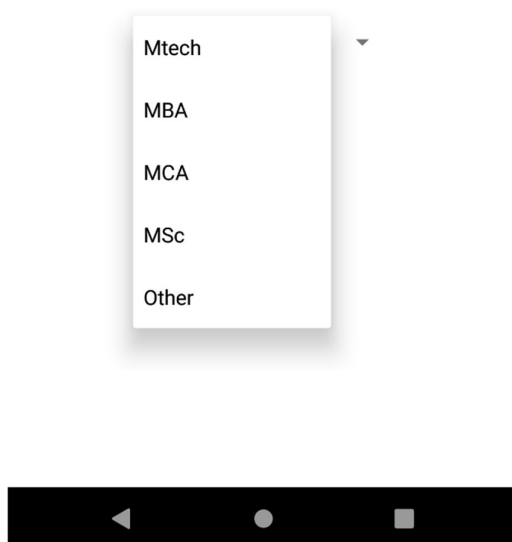
import android.widget.AdapterView;
import android.widget.Spinner;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {
    String[]course={"Mtech","MBA","Msc","MCA","Other"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);

        ArrayAdapter aa=new ArrayAdapter(this, android.R.layout.simple_spinner_item,
course);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spin.setAdapter(aa);
    }
    @Override
    public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {

        Toast.makeText(getApplicationContext(),course[position],
Toast.LENGTH_SHORT).show();
    }
    @Override
    public void onNothingSelected(AdapterView<?> parent) {
    }
}

```

**OUTPUT:**

**Program No :16****Aim : Apply themes via code and manifest file.****activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="300dp"
        android:layout_height="90dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Enter a Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.333" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

**theme.xml**

```

<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.Temp"
        parent="Theme.MaterialComponents.DayNight.DarkActionBar">
        <!-- Primary brand color. -->
        <item name="colorPrimary">@color/black</item>
        <item name="colorPrimaryVariant">@color/purple_700</item>
        <item name="colorOnPrimary">@color/white</item>
        <!-- Secondary brand color. -->
        <item name="colorSecondary">@color/teal_200</item>
        <item name="colorSecondaryVariant">@color/teal_700</item>
        <item name="colorOnSecondary">@color/black</item>
        <!-- Status bar color. -->
        <item name="android:statusBarColor"
            tools:targetApi="l">?attr/colorPrimaryVariant</item>
        <!-- Customize your theme here. -->
        <item name="android:textColorPrimary">@color/purple_700</item>
    </style>
</resources>

```

```

        <item name="android:textSize">40dp</item>

    </style>
</resources>

```

### colors.xml

```

<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008040</color>
    <color name="color_Primary_dark">#ffccdd</color>
    <color name="color_accent">#004466</color>
    <color name="colo_txt">#ff1a75</color>
</resources>

```

### JAVA Code

```

package com.example.temp;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```



**OUTPUT:**

abhijith



**Program No :17****Aim: Develop application using Fragments****Mainactivity.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <FrameLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="4"
        android:id="@+id/framelayout"
        android:background="@color/purple_200"/>
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1">
        <Button
            android:layout_width="160dp"
            android:layout_height="150dp"
            android:id="@+id/fg1"
            android:text="Ftagment1"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="30dp"
            android:layout_marginBottom="20dp"/>
        <Button
            android:id="@+id/fg2"
            android:layout_width="160dp"
            android:layout_height="150dp"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="200dp"
            android:layout_marginBottom="20dp"
            android:text="Ftagment2" />
    </RelativeLayout>
</LinearLayout>

```

**mainactivity.java**

```

package com.example.myapplication4;
import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
    Button b1,b2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1 = findViewById(R.id.fg1);
        b2 = findViewById(R.id.fg2);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                replaceFragment(new Fragment1());
            }
        });
        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                replaceFragment(new Fragment2());
            }
        });
    }
    private void replaceFragment(Fragment fragment){
        FragmentManager fragmentManager = getSupportFragmentManager();
        FragmentTransaction fragmentTransaction = fragmentManager.beginTransaction();
        fragmentTransaction.replace(R.id.framelayout,fragment);
        fragmentTransaction.commit();
    }
}

```

**fragment1.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".Fragment1"
    android:background="@color/purple_700">

```

```

<!-- TODO: Update blank fragment layout -->
<TextView
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_centerInParent="true"
    android:text="fragment1"
    android:textSize="30dp" />
</RelativeLayout>

```

### fragment2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="Fragment1"
    android:background="@color/teal_700">
    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_centerInParent="true"
        android:text="fragment2"
        android:textSize="30dp" />
</RelativeLayout>

```

### fragment2.java

```

package com.example.myapplication4;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
public class Fragment2 extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_2, container, false);
    }
}

```

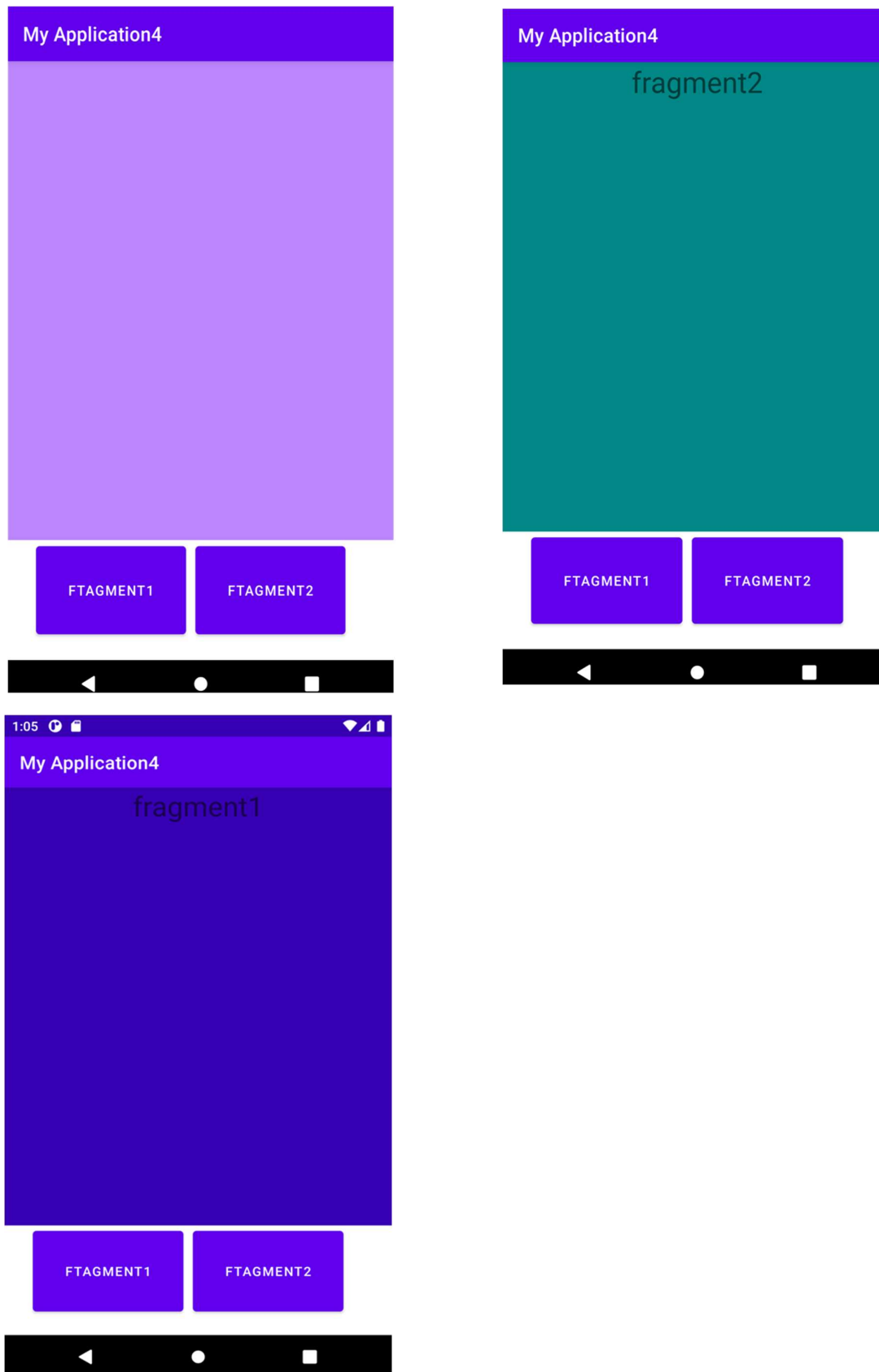
### fragment1.java

```

package com.example.myapplication4;
import android.os.Bundle;

```

```
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
public class Fragment1 extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_1, container, false);
    }
}
```

**OUTPUT:**

**Program No.18****Aim: Implement Navigation drawer****Mainactivity.java**

```

package com.example.nav1402;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;

import android.os.Bundle;
import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {

    DrawerLayout drawerLayout;
    ActionBarDrawerToggle actionBarDrawerToggle;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        drawerLayout=findViewById(R.id.drl);
        actionBarDrawerToggle=new
ActionBarDrawerToggle(this,drawerLayout,R.string.nav_open,R.string.nav_close);

        drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();

        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {

        if (actionBarDrawerToggle.onOptionsItemSelected(item))
        {
            return true;
        }

        return super.onOptionsItemSelected(item);
    }
}

```

### activitymain.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/drl"
tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:text="Navigation"
            android:textSize="20dp" />

    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="start"
        app:menu="@menu/navimenu"/>

</androidx.drawerlayout.widget.DrawerLayout>
```

### String.xml

```
<resources>
    <string name="app_name">nav14.02</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

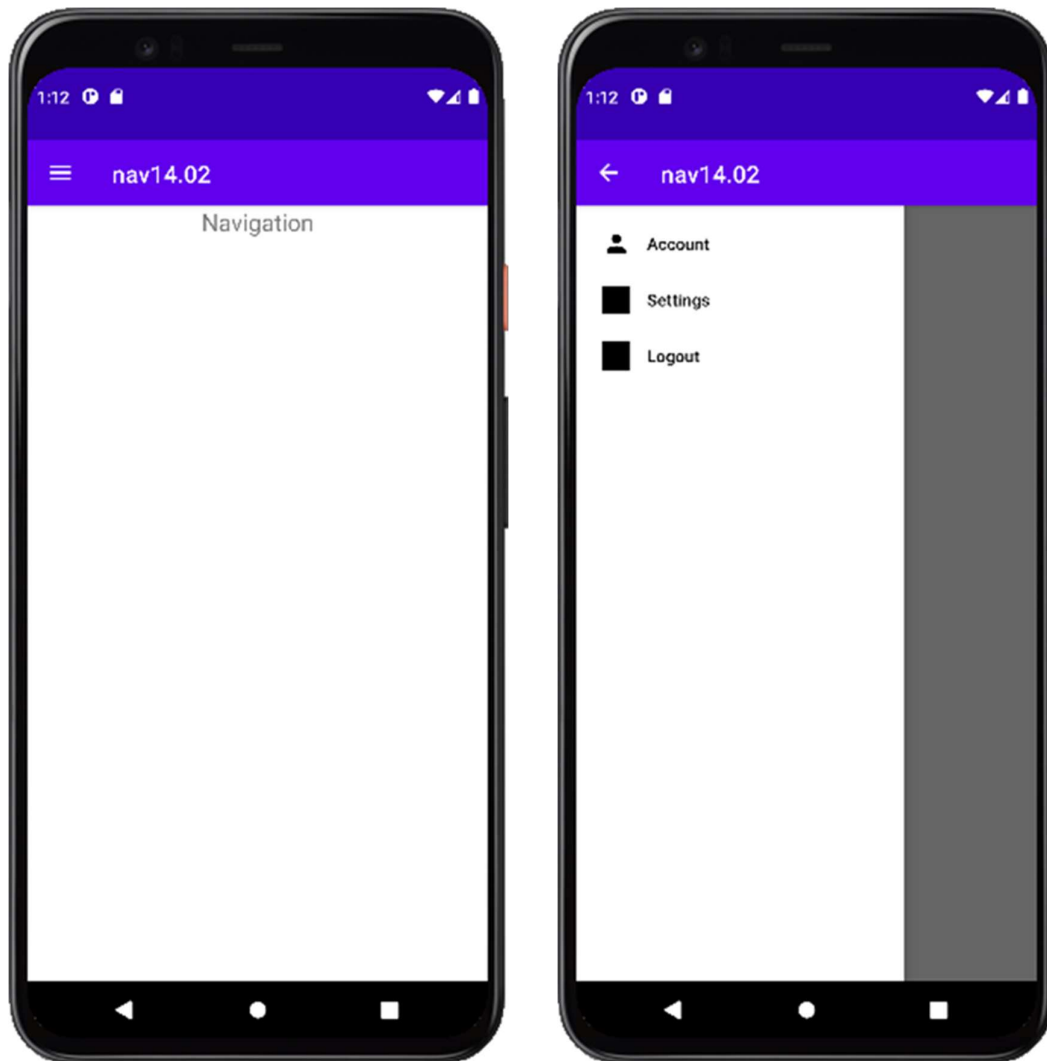


### Navimenu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">

    <item
        android:id="@+id/acc"
        android:title="Account"
        android:icon="@drawable/acc"/>
    <item
        android:id="@+id/sett"
        android:title="Settings"
        android:icon="@drawable/sett"/>
    <item
        android:id="@+id/log"
        android:title="Logout"
        android:icon="@drawable/logout" />

</menu>
```

**OUTPUT:**

**Program No .19**

**Aim :Program to implement various SQLite operations : (INSERT, UPDATE ,DELETE ,SELECT)**

**XML Code**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="10dp"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/texttitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Please enter the details below"
        android:textSize="24dp" />

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:textSize="24dp"
        android:layout_below="@+id/texttitle"
        android:inputType="textPersonName"
        />

    <EditText
        android:id="@+id/contact"
        android:layout_width="match_parent"
```

```

        android:layout_height="wrap_content"
        android:hint="Contact"
        android:textSize="24dp"
        android:layout_below="@+id/name"
        android:inputType="number"
    />

    <EditText
        android:id="@+id/dob"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Date of birth"
        android:textSize="24dp"
        android:layout_below="@+id/contact"
        android:inputType="number"
    />

    <Button
        android:id="@+id/buttonInsert"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Insert new Data"
        android:layout_marginTop="30dp"
        android:layout_below="@+id/dob"
    />

    <Button
        android:id="@+id/buttonUpdate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Update Data"
        android:layout_below="@+id/buttonInsert"
    />

    <Button

```

```

        android:id="@+id/buttondelete"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Delete existing data"
        android:layout_below="@+id/buttonUpdate"
    />

    <Button
        android:id="@+id/buttonView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="View data"
        android:layout_below="@+id/buttondelete"
    />

</RelativeLayout>

```

### Mainactivity.java

```

package com.example.dboperationcrud;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AlertDialog;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText name, contact, dob;
    Button insert, update, delete, view;

```

DBHelper DB;

@Override

protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity\_main);

    name=findViewById(R.id.name);

    contact=findViewById(R.id.contact);

    dob=findViewById(R.id.dob);

    insert=findViewById(R.id.buttonInsert);

    update=findViewById(R.id.buttonUpdate);

    delete=findViewById(R.id.buttondelete);

    view=findViewById(R.id.buttonView);

    DB=new DBHelper(this);

    insert.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            String nameTXT=name.getText().toString();

            String contactTXT=contact.getText().toString();

            String dobTXT=dob.getText().toString();

            Boolean checkinsertdata=DB.insertuserdata(nameTXT,contactTXT,dobTXT);

            if(checkinsertdata==true)

                Toast.makeText(MainActivity.this, "New Entry Inserted",

Toast.LENGTH\_SHORT).show();

            else

                Toast.makeText(MainActivity.this, "Unable to Insert",

Toast.LENGTH\_SHORT).show();

        }

    });

    update.setOnClickListener(new View.OnClickListener() {

        @Override

```

public void onClick(View v) {
    String nameTXT=name.getText().toString();
    String contactTXT=contact.getText().toString();
    String dobTXT=dob.getText().toString();

    Boolean checkupdatedata=DB.updateuserdata(nameTXT,contactTXT,dobTXT);
    if(checkupdatedata==true)
        Toast.makeText(MainActivity.this, "Entry Updated",
Toast.LENGTH_SHORT).show();
    else
        Toast.makeText(MainActivity.this, "Entry Not Updated",
Toast.LENGTH_SHORT).show();
    }
});
delete.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String nameTXT=name.getText().toString();

        Boolean checkdeletedata=DB.deletedata(nameTXT);
        if(checkdeletedata==true)
            Toast.makeText(MainActivity.this, "Entry Deleted",
Toast.LENGTH_SHORT).show();
        else
            Toast.makeText(MainActivity.this, "Entry Not Deleted",
Toast.LENGTH_SHORT).show();
    }
});
view.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Cursor res=DB.getdata();
        if(res.getCount()==0){

```

```

        Toast.makeText(MainActivity.this, "No entry exists",
Toast.LENGTH_SHORT).show();
        return;
    }
    StringBuffer buffer=new StringBuffer();
    while(res.moveToNext()){
        buffer.append("Name:"+res.getString(0)+"\n");
        buffer.append("Contact:"+res.getString(1)+"\n");
        buffer.append("Date of Birth:"+res.getString(2)+"\n");
    }
    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
    builder.setCancelable(true);
    builder.setTitle("Details");
    builder.setMessage(buffer.toString());
    builder.show();
}
});
}
}

```

### **DBhelper.java**

```

package com.example.dboperationcrud;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

class DBHelper extends SQLiteOpenHelper {
    public DBHelper(Context context) {
        super(context, "Userdata", null, 1);
    }
}

```



```

@Override
public void onCreate(SQLiteDatabase DB) {
    DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob
TEXT)");
}

```

```

@Override
public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {
    DB.execSQL("drop Table if exists Userdetails");
}

```

```

public Boolean insertuserdata(String name, String contact, String dob){
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("name",name);
    contentValues.put("contact",contact);
    contentValues.put("dob",dob);
    long result=DB.insert("Userdetails", null, contentValues);
    if(result==-1){
        return false;
    }else{
        return true;
    }
}

```

```

public Boolean updateuserdata(String name, String contact, String dob){
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("contact",contact);
    contentValues.put("dob",dob);
    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});
    if(cursor.getCount()>0) {

```

```

        long result = DB.update("Userdetails", contentValues, "name=?", new
String[]{name});
        if (result == -1) {
            return false;
        } else {
            return true;
        }
    } else {
        return false;
    }
}

public Boolean deletedata(String name){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});
    if(cursor.getCount(>0) {
        long result = DB.delete("Userdetails", "name=?", new String[]{name});
        if (result == -1) {
            return false;
        } else {
            return true;
        }
    } else {
        return false;
    }
}

public Cursor getdata (){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("Select * from Userdetails",null);
    return cursor;
}
}

```

**OUTPUT:**

The image displays two side-by-side screenshots of a mobile application interface for a database operation. Both screens have a blue header with the app name "dboperationcrud".

**Left Screenshot (Time: 3:58):**

- Text: "Please enter the details below"
- Form fields:
  - Name:
  - Contact:
  - Date of birth:
- Buttons:
  - INSERT NEW DATA
  - UPDATE DATA
  - DELETE EXISTING DATA
  - VIEW DATA

**Right Screenshot (Time: 7:46):**

- Text: "Please enter the details below"
- Form fields:
  - Name: K M Abhijith
  - Contact: 9897632324
  - Date of birth: 29031999
- Buttons:
  - INSERT NEW DATA
  - UPDATE DATA
  - DELETE EXISTING DATA
  - VIEW DATA
- Numeric keypad at the bottom with digits 1-9, 0, a decimal point, and a green checkmark button.

**Insert**

7:54

dboperationcrud

Please enter the details below

K M Abhijith

9897632324

29031999

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

1 2 3 -

4 5 6

7 8 9

, 0 .

New Entry Inserted

7:49

dboperationcrud

Please enter the details below

K M Abhijith

9897632324

29031999

Details

Name:K M Abhijith

Contact:9897632324

Date of Birth:29031999

VIEW DATA

1 2 3 -

4 5 6

7 8 9

, 0 .

## Update

7:56 [Settings] [App Icon] [Signal] [Battery]

dboperationcrud

Please enter the details below

K M Abhijith

9897632324

290399

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

|   |   |   |   |
|---|---|---|---|
| 1 | 2 | 3 | - |
| 4 | 5 | 6 | _ |
| 7 | 8 | 9 | ✕ |
| , | 0 | . | ✓ |

Entry Updated

7:49 [Settings] [App Icon] [Signal] [Battery]

dboperationcrud

Please enter the details below

K M Abhijith

9897632324

290399

**Details**

Name:K M Abhijith  
Contact:9897632324  
Date of Birth:290399

VIEW DATA

|   |   |   |   |
|---|---|---|---|
| 1 | 2 | 3 | - |
| 4 | 5 | 6 | _ |
| 7 | 8 | 9 | ✕ |
| , | 0 | . | ✓ |

**Delete**

The screenshot shows a mobile application interface with a purple header bar containing the text "dboperationcrud". Below the header, there is a text input field with the value "K M Abhijith", followed by two numeric input fields with values "9897632324" and "290399". Below these fields are four purple buttons with white text: "INSERT NEW DATA", "UPDATE DATA", "DELETE EXISTING DATA", and "VIEW DATA". At the bottom of the screen is a numeric keypad with digits 1-9, 0, a decimal point, and a comma. A green checkmark button is located to the right of the keypad. A message "Entry Deleted" is displayed above the keypad.

7:52

dboperationcrud

Please enter the details below

K M Abhijith

9897632324

290399

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

1 2 3 -

4 5 6 \_

7 8 9 ✕

Entry Deleted

, 0 . ✓